

110TH CONGRESS  
1ST SESSION

# S. 365

To authorize the Secretary of Energy to establish monetary prizes for achievements in overcoming scientific and technical barriers associated with hydrogen energy.

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## IN THE SENATE OF THE UNITED STATES

JANUARY 23, 2007

Mr. GRAHAM (for himself, Mr. HAGEL, and Mr. DORGAN) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

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## A BILL

To authorize the Secretary of Energy to establish monetary prizes for achievements in overcoming scientific and technical barriers associated with hydrogen energy.

1       *Be it enacted by the Senate and House of Representa-*  
2       *tives of the United States of America in Congress assembled,*

3       **SECTION 1. SHORT TITLE.**

4       This Act may be cited as the “H-Prize Act of 2007”.

5       **SEC. 2. DEFINITIONS.**

6       In this Act:

7               (1) **ADMINISTERING ENTITY.**—The term “ad-  
8       ministering entity” means the entity with which the

1 Secretary enters into an agreement under section  
2 3(c).

3 (2) DEPARTMENT.—The term “Department”  
4 means the Department of Energy.

5 (3) SECRETARY.—The term “Secretary” means  
6 the Secretary of Energy.

7 **SEC. 3. PRIZE AUTHORITY.**

8 (a) IN GENERAL.—The Secretary shall carry out a  
9 program to competitively award cash prizes only in con-  
10 formity with this Act to advance the research, develop-  
11 ment, demonstration, and commercial application of hy-  
12 drogen energy technologies.

13 (b) ADVERTISING AND SOLICITATION OF COMPETI-  
14 TIONS.—

15 (1) ADVERTISING.—The Secretary shall widely  
16 advertise prize competitions to encourage broad par-  
17 ticipation, including by individuals, universities (in-  
18 cluding historically Black colleges and universities  
19 and other minority serving institutions), and large  
20 and small businesses (including businesses owned or  
21 controlled by socially and economically disadvan-  
22 taged persons).

23 (2) ANNOUNCEMENT THROUGH FEDERAL REG-  
24 ISTER NOTICE.—The Secretary shall announce each  
25 prize competition by publishing a notice in the Fed-

1       eral Register. This notice shall include the subject of  
2       the competition, the duration of the competition, the  
3       eligibility requirements for participation in the com-  
4       petition, the process for participants to register for  
5       the competition, the amount of the prize, and the  
6       criteria for awarding the prize.

7       (c) ADMINISTERING THE COMPETITIONS.—The Sec-  
8       retary shall enter into an agreement with a private, non-  
9       profit entity to administer the prize competitions, subject  
10      to the provisions of this Act. The duties of the admin-  
11      istering entity under the agreement shall include—

12           (1) advertising prize competitions and their re-  
13      sults;

14           (2) raising funds from private entities and indi-  
15      viduals to pay for administrative costs and to con-  
16      tribute to cash prizes;

17           (3) working with the Secretary to develop the  
18      criteria for selecting winners in prize competitions,  
19      based on goals provided by the Secretary;

20           (4) determining, in consultation with the Sec-  
21      retary, the appropriate amount for each prize to be  
22      awarded;

23           (5) selecting judges in accordance with section  
24      4(d), using criteria developed in consultation with  
25      the Secretary; and

1           (6) preventing the unauthorized use or discolo-  
2           sure of a registered participant's intellectual prop-  
3           erty, trade secrets, and confidential business infor-  
4           mation.

5           (d) FUNDING SOURCES.—Prizes under this Act shall  
6           consist of Federal appropriated funds and any funds pro-  
7           vided by the administering entity (including funds raised  
8           pursuant to subsection (c)(2)) for such cash prizes. The  
9           Secretary may accept funds from other Federal agencies  
10          for such cash prizes. The Secretary may not give any spe-  
11          cial consideration to any private sector entity or individual  
12          in return for a donation to the administering entity.

13          (e) ANNOUNCEMENT OF PRIZES.—The Secretary  
14          may not issue a notice required by subsection (b)(2) until  
15          all the funds needed to pay out the announced amount  
16          of the prize have been appropriated or committed in writ-  
17          ing by the administering entity. The Secretary may in-  
18          crease the amount of a prize after an initial announcement  
19          is made under subsection (b)(2) if—

20                (1) notice of the increase is provided in the  
21                same manner as the initial notice of the prize; and

22                (2) the funds needed to pay out the announced  
23                amount of the increase have been appropriated or  
24                committed in writing by the administering entity.

1 (f) SUNSET.—The authority to announce prize com-  
2 petitions under this Act shall terminate on September 30,  
3 2018.

4 **SEC. 4. PRIZE CATEGORIES.**

5 (a) CATEGORIES.—The Secretary shall establish  
6 prizes for—

7 (1) advancements in components or systems re-  
8 lated to—

9 (A) hydrogen production;

10 (B) hydrogen storage;

11 (C) hydrogen distribution; and

12 (D) hydrogen utilization;

13 (2) prototypes of hydrogen-powered vehicles or  
14 other hydrogen-based products that best meet or ex-  
15 ceed objective performance criteria, such as comple-  
16 tion of a race over a certain distance or terrain or  
17 generation of energy at certain levels of efficiency;  
18 and

19 (3) transformational changes in technologies for  
20 the distribution or production of hydrogen that meet  
21 or exceed far-reaching objective criteria, which shall  
22 include minimal carbon emissions and which may in-  
23 clude cost criteria designed to facilitate the eventual  
24 market success of a winning technology.

25 (b) AWARDS.—

1           (1) ADVANCEMENTS.—To the extent permitted  
2           under section 3(e), the prizes authorized under sub-  
3           section (a)(1) shall be awarded biennially to the  
4           most significant advance made in each of the four  
5           subcategories described in subparagraphs (A)  
6           through (D) of subsection (a)(1) since the submis-  
7           sion deadline of the previous prize competition in the  
8           same category under subsection (a)(1) or the date of  
9           enactment of this Act, whichever is later, unless no  
10          such advance is significant enough to merit an  
11          award. No one such prize may exceed \$1,000,000. If  
12          less than \$4,000,000 is available for a prize competi-  
13          tion under subsection (a)(1), the Secretary may omit  
14          one or more subcategories, reduce the amount of the  
15          prizes, or not hold a prize competition.

16          (2) PROTOTYPES.—To the extent permitted  
17          under section 3(e), prizes authorized under sub-  
18          section (a)(2) shall be awarded biennially in alter-  
19          nate years from the prizes authorized under sub-  
20          section (a)(1). The Secretary is authorized to award  
21          up to one prize in this category in each 2-year pe-  
22          riod. No such prize may exceed \$4,000,000. If no  
23          registered participants meet the objective perform-  
24          ance criteria established pursuant to subsection (c)

1 for a competition under this paragraph, the Sec-  
2 retary shall not award a prize.

3 (3) TRANSFORMATIONAL TECHNOLOGIES.—To  
4 the extent permitted under section 3(e), the Sec-  
5 retary shall announce one prize competition author-  
6 ized under subsection (a)(3) as soon after the date  
7 of enactment of this Act as is practicable. A prize  
8 offered under this paragraph shall be not less than  
9 \$10,000,000, paid to the winner in a lump sum, and  
10 an additional amount paid to the winner as a match  
11 for each dollar of private funding raised by the win-  
12 ner for the hydrogen technology beginning on the  
13 date the winner was named. The match shall be pro-  
14 vided for 3 years after the date the prize winner is  
15 named or until the full amount of the prize has been  
16 paid out, whichever occurs first. A prize winner may  
17 elect to have the match amount paid to another enti-  
18 ty that is continuing the development of the winning  
19 technology. The Secretary shall announce the rules  
20 for receiving the match in the notice required by sec-  
21 tion 3(b)(2). The Secretary shall award a prize  
22 under this paragraph only when a registered partici-  
23 pant has met the objective criteria established for  
24 the prize pursuant to subsection (c) and announced  
25 pursuant to section 3(b)(2). Not more than

1       \$10,000,000 in Federal funds may be used for the  
2       prize award under this paragraph. The admin-  
3       istering entity shall seek to raise \$40,000,000 to-  
4       ward the matching award under this paragraph.

5       (c) CRITERIA.—In establishing the criteria required  
6 by this Act, the Secretary shall consult with—

7           (1) the Department’s Hydrogen Technical and  
8       Fuel Cell Advisory Committee;

9           (2) other Federal agencies, including the Na-  
10      tional Science Foundation; and

11          (3) private organizations, including professional  
12      societies, industry associations, and the National  
13      Academy of Sciences and the National Academy of  
14      Engineering.

15      (d) JUDGES.—For each prize competition, the Sec-  
16      retary shall assemble a panel of qualified judges to select  
17      the winner or winners on the basis of the criteria estab-  
18      lished under subsection (c). Judges for each prize competi-  
19      tion shall include individuals from outside the Depart-  
20      ment, including from the private sector. A judge may  
21      not—

22          (1) have personal or financial interests in, or be  
23      an employee, officer, director, or agent of, any entity  
24      that is a registered participant in the prize competi-  
25      tion for which he or she will serve as a judge; or



1           (2) have a familial or financial relationship with  
2           an individual who is a registered participant in the  
3           prize competition for which he or she will serve as  
4           a judge.

5 **SEC. 5. ELIGIBILITY.**

6           To be eligible to win a prize under this Act, an indi-  
7           vidual or entity—

8           (1) shall have complied with all the require-  
9           ments in accordance with the Federal Register no-  
10          tice required under section 3(b)(2);

11          (2) in the case of a private entity, shall be in-  
12          corporated in and maintain a primary place of busi-  
13          ness in the United States, and in the case of an in-  
14          dividual, whether participating singly or in a group,  
15          shall be a citizen of, or an alien lawfully admitted  
16          for permanent residence in, the United States; and

17          (3) shall not be a Federal entity, a Federal em-  
18          ployee acting within the scope of his employment, or  
19          an employee of a national laboratory acting within  
20          the scope of his employment.

21 **SEC. 6. INTELLECTUAL PROPERTY.**

22          The Federal Government shall not, by virtue of offer-  
23          ing or awarding a prize under this Act, be entitled to any  
24          intellectual property rights derived as a consequence of,  
25          or direct relation to, the participation by a registered par-

1 participant in a competition authorized by this Act. This sec-  
 2 tion shall not be construed to prevent the Federal Govern-  
 3 ment from negotiating a license for the use of intellectual  
 4 property developed for a prize competition under this Act.

5 **SEC. 7. LIABILITY.**

6 (a) **WAIVER OF LIABILITY.**—The Secretary may re-  
 7 quire registered participants to waive claims against the  
 8 Federal Government and the administering entity (except  
 9 claims for willful misconduct) for any injury, death, dam-  
 10 age, or loss of property, revenue, or profits arising from  
 11 the registered participants’ participation in a competition  
 12 under this Act. The Secretary shall give notice of any  
 13 waiver required under this subsection in the notice re-  
 14 quired by section 3(b)(2). The Secretary may not require  
 15 a registered participant to waive claims against the admin-  
 16 istering entity arising out of the unauthorized use or dis-  
 17 closure by the administering entity of the registered par-  
 18 ticipant’s intellectual property, trade secrets, or confiden-  
 19 tial business information.

20 (b) **LIABILITY INSURANCE.**—

21 (1) **REQUIREMENTS.**—Registered participants  
 22 shall be required to obtain liability insurance or  
 23 demonstrate financial responsibility, in amounts de-  
 24 termined by the Secretary, for claims by—

1 (A) a third party for death, bodily injury,  
 2 or property damage or loss resulting from an  
 3 activity carried out in connection with participa-  
 4 tion in a competition under this Act; and

5 (B) the Federal Government for damage or  
 6 loss to Government property resulting from  
 7 such an activity.

8 (2) FEDERAL GOVERNMENT INSURED.—The  
 9 Federal Government shall be named as an additional  
 10 insured under a registered participant’s insurance  
 11 policy required under paragraph (1)(A), and reg-  
 12 istered participants shall be required to agree to in-  
 13 demnify the Federal Government against third party  
 14 claims for damages arising from or related to com-  
 15 petition activities.

16 **SEC. 8. AUTHORIZATION OF APPROPRIATIONS.**

17 (a) AUTHORIZATION OF APPROPRIATIONS.—

18 (1) AWARDS.—There are authorized to be ap-  
 19 propriated to the Secretary for the period encom-  
 20 passing fiscal years 2008 through 2017 for carrying  
 21 out this Act—

22 (A) \$20,000,000 for awards described in  
 23 section (4)(a)(1);

24 (B) \$20,000,000 for awards described in  
 25 section 4(a)(2); and

1 (C) \$10,000,000 for the award described  
2 in section 4(a)(3).

3 (2) ADMINISTRATION.—In addition to the  
4 amounts authorized in paragraph (1), there are au-  
5 thorized to be appropriated to the Secretary for each  
6 of fiscal years 2008 through 2017 \$2,000,000 for  
7 the administrative costs of carrying out this Act.

8 (b) CARRYOVER OF FUNDS.—Funds appropriated for  
9 prize awards under this Act shall remain available until  
10 expended, and may be transferred, reprogrammed, or ex-  
11 pended for other purposes only after the expiration of 10  
12 fiscal years after the fiscal year for which the funds were  
13 originally appropriated. No provision in this Act permits  
14 obligation or payment of funds in violation of section 1341  
15 of title 31 of the United States Code (commonly referred  
16 to as the Anti-Deficiency Act).

17 **SEC. 9. NONSUBSTITUTION.**

18 The programs created under this Act shall not be  
19 considered a substitute for Federal research and develop-  
20 ment programs.

